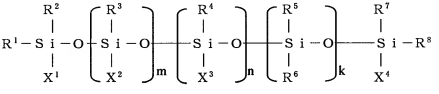
AMENDED CLAIM SET:

1. (currently amended) A conjugated diene rubber composition comprising:

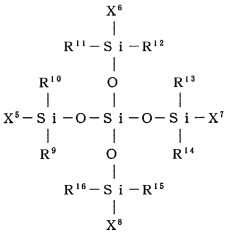
(A) 5% to 95% by weight of a conjugated diene rubber having a weight average molecular weight in the range of 1,000 to 3,000,000 ~~and having a structure such that~~ wherein at least three conjugated diene polymer chains in said rubber are bonded together through at least one polyorganosiloxane selected from those which are represented by the general formulae (1), (2) and (3), shown below; ~~; and (B) 95% to 5% by weight of a conjugated diene rubber having a weight average molecular weight in the range of 1,000 to 3,000,000 and having a structure such that it has been allowed to react with a compound having in the molecule at least one functional group selected from the group consisting of; a >C=O group, a >C=S group, an amino group, an imino group, an epoxy group, a pyridyl group, an alkoxyl group and a halogen;~~

General formula (1):



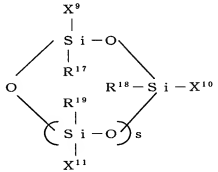
wherein R^1 through R^8 represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^1 through R^8 being the same or different; X^1 and X^4 are such that (i) a part of the sum of X^1 and X^4 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of the X^1 and X^4 is a group derived from said functional group or a single bond, or (ii) X^1 and X^4 are an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, X^1 and X^4 being the same or different; X^2 is such that a part of X^2 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of X^2 is a group derived from said functional group or a single bond; X^3 is a group comprising 2 to 20 alkylene glycol repeating units, provided that a part of X^3 may be a group derived from the group comprising 2 to 20 alkylene glycol repeating units; and m is an integer of 3 to 200, n is an integer of 0 to 200 and k is an integer of 0 to 200;

General formula (2):



wherein R^9 through R^{16} represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^9 through R^{16} being the same or different; and X^5 through X^8 are such that a part of the sum of X^5 through X^8 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of the sum of X^5 through X^8 is a group derived from said functional group or a single bond;

General formula (3):



wherein R^{17}, R^{18} and R^{19} represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^{17}, R^{18} and R^{19} being the same or different; X^9, X^{10} and X^{11} are such that a part of the sum of X^9, X^{10} and X^{11} is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of the sum of X^1 and X^4 is a group derived from said functional group or a single bond; and s is an integer of 1 to 18, and

(B) 95% to 5% by weight of a reaction product of a conjugated diene rubber having a weight average molecular weight in the range of 1,000 to 3,000,000 with a compound selected from the group consisting of:

N-substituted cyclic amides,
N-substituted cyclic ureas,
N-substituted amino ketones,
aromatic isocyanates,
N,N,N',N'-tetramethylthiourea,
N,N-disubstituted aminoalkylmethacrylamides,
N-substituted aminoaldehydes,
N-substituted carbodiimides,
Schiff bases,
propylene oxide,
tetraglycidyl-1,3-bisaminomethylcyclohexane,
epoxidized polybutadiene,
vinyl compounds having a pyridyl group,
bis(triethoxysilylpropyl)-tetrasulfide,
bis(tributoxysilylpropyl)tetrasulfide,
γ-glydoxypropyltrimethoxysilane,
methyltrimethoxysilane,
tetramethoxysilane,
tin tetrachloride,
silicon tetrachloride,
triphenylmonochlorotin,
triphenoxychlorosilane,
methyltriphenoxysilane, and
diphenoxydichlorosilane.

2. (original) The conjugated diene rubber composition according to claim 1, wherein the polymer chain constituting the conjugated diene rubber (A) and the polymer chain constituting

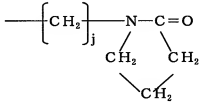
the conjugated diene rubber (B) comprise 50% to 100% by weight of conjugated diene monomer units and 50% to 0% by weight of aromatic vinyl monomer units.

3. (original) The conjugated diene rubber composition according to claim 1, wherein the conjugated diene monomer units in the conjugated diene rubber (A) and the conjugated diene monomer units in the conjugated diene rubber (B) have a vinyl bond content of 5% to 95% by weight.

4. (original) The conjugated diene rubber composition according to claim 1, wherein the functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains for X^1, X^2 and X^4 in the formula (1) is a group selected from an alkoxyl group having 1 to 5 carbon atoms, a hydrocarbon group containing a 2-pyrrolidonyl group, and a group having 4 to 12 carbon atoms and containing an epoxy group.

5. (original) The conjugated diene rubber composition according to claim 4, wherein the functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains for X^1, X^2 and X^4 in the formula (1) is a hydrocarbon group containing a 2-pyrrolidonyl group represented by the following general formula (4).

General formula (4):



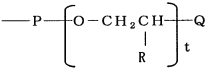
wherein j is an integer of 2 to 10.

6. (original) The conjugated diene rubber composition according to claim 4, wherein the functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains for X^1, X^2 and X^4 in the formula (1) is a group having 4 to 12 carbon atoms and containing an epoxy group represented by the following general formula (5):

Z Y E

wherein Z is an alkylene group or an alkylarylene group, which have 1 to 10 carbon atoms, Y is a methylene group, a sulfur atom or an oxygen atom, and E is a group having 4 to 12 carbon atoms and containing an epoxy group.

7. (original) The conjugated diene rubber composition according to claim 1, wherein the group comprising 2 to 20 alkylene glycol repeating units for X^3 in the formula (1) is a group represented by the following general formula (6):



wherein t is an integer of 2 to 20, P is an alkylene group or an alkylarylene group, which have 2 to 10 carbon atoms, R is a hydrogen atom or a methyl group, Q is an alkoxyl group or an aryloxy group, which have 1 to 10 carbon atoms, provided that a part of Q may be a single bond.

8. (original) The conjugated diene rubber composition according to claim 1, wherein the conjugated diene rubber (A) comprises 2 to 90% by weight, based on the conjugated diene rubber (A), of a conjugated diene rubber having a structure such that at least four of the conjugated diene polymer chains are bonded together through at least one polyorganosiloxane selected from those which are represented by the formulae (1), (2) and (3).

9. (original) The conjugated diene rubber composition according to claim 1, which further comprises 5 to 150 parts by weight, based on 100 parts by weight of the total conjugated diene rubbers (A) and (B), of at least one filler selected from silica and carbon black.

10. (original) The conjugated diene rubber composition according to claim 9, which comprises silica alone or both of silica and carbon black as the filler.

11. (original) The conjugated diene rubber composition according to claim 1, which further comprises not larger than 900 parts by weight, based on 100 parts by weight of the total conjugated diene rubbers (A) and (B), of a polymer having a glass transition temperature in the range of -120°C to 200°C and a weight average molecular weight of 1,000 to 3,000,000.

12. (withdrawn) A process for producing a conjugated diene rubber composition as claimed in claim 1, which comprises:

allowing active conjugated diene polymer chains having an active metal at a terminal thereof, which are obtained by polymerizing a conjugated diene monomer alone or both of a conjugated diene monomer and an aromatic vinyl monomer using an organic active metal, to react with a polyorganosiloxane having a functional group capable of reacting with the active metal at a terminal of the active conjugated diene polymers in an inert solvent to prepare a polymer solution of the conjugated diene rubber (A) having a weight average molecular weight in the range of 1,000 to 3,000,000; wherein the amount of said polyorganosiloxane is larger than 0.001 mole but smaller than 0.1 mole, per mole of the organic active metal used for polymerization; and said polyorganosiloxane is at least one polyorganosiloxane selected from those which are represented by the formulae (1), (2) and (3), wherein X^1 and X^4 in the formula (1) are a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains, or are an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, X^2 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains, X^3 is a group comprising 2 to 20 alkylene glycol repeating units; and X^5 through X^8 in the formula (2) are a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains; and X^9 through X^{11} in the formula (3) are a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains;

allowing active conjugated diene polymer chains having an active metal at a terminal thereof, which are obtained by polymerizing a conjugated diene monomer alone or both of a conjugated diene monomer and an aromatic vinyl monomer using an organic active metal, to react with a compound having in the molecule at least one functional group selected from the group consisting of a >C=O group, a >C=S group, an amino group, an imino group, an epoxy

group, a pyridyl group, an alkoxyl group and a halogen in an inert solvent, to prepare a polymer solution of the conjugated diene rubber (B) having a weight average molecular weight in the range of 1,000 to 3,000,000;

mixing together the polymer solution of the conjugated diene rubber (A) and the polymer solution of the conjugated diene rubber (B); and then,

removing the liquid medium from the mixed polymer solution to recover the rubber composition.

13. (withdrawn) A process for producing a conjugated diene rubber composition as claimed in claim 1, which comprises:

allowing 5% to 95% portion of active conjugated diene polymer chains having an active metal at a terminal thereof, which are obtained by polymerizing a conjugated diene monomer alone or both of a conjugated diene monomer and an aromatic vinyl monomer using an organic active metal, to react with a compound having in the molecule at least one functional group selected from the group consisting of a >C=O group, a >C=S group, an amino group, an imino group, an epoxy group, a pyridyl group, an alkoxyl group and a halogen in an inert solvent; and then,

allowing 10% to 100% of the remainder portion of the active conjugated diene polymer chains having an active metal at a terminal thereof to react with a polyorganosiloxane having a functional group capable of reacting with the active metal at a terminal of the active conjugated diene polymers, in the inert solvent; wherein the amount of the polyorganosiloxane is larger than 0.001 mole but smaller than 0.1 mole, per mole of the organic active metal in the remainder portion of the active conjugated diene polymer chains; and said polyorganosiloxane is at least one polyorganosiloxane selected from those which are represented by the formulae (1), (2) and (3), wherein X^1 and X^4 in the formula (1) are a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains, or are an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, X^2 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains, X^3 is a group comprising 2 to 20 alkylene glycol repeating units; and X^5 through X^8 in the formula (2) are a functional group capable of reacting with an active metal at a

terminal of the active conjugated diene polymer chains; and X^9 through X^{11} in the formula (3) are a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains.

14. (withdrawn) The process for producing a conjugated diene rubber composition according to claim 12 or 13, wherein the polyorganosiloxane used is represented by the formula (1), and wherein the functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains for X^1, X^2 and X^4 in the formula (1) is a group selected from an alkoxyl group having 1 to 5 carbon atoms, a hydrocarbon group containing a 2-pyrrolidonyl group, and a group having 4 to 12 carbon atoms and containing an epoxy group.

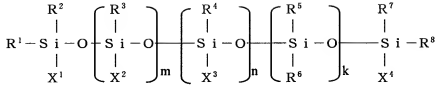
15. (withdrawn) The process for producing a conjugated diene rubber composition according to claim 12 or 13, wherein the active conjugated diene polymer chains having an active metal at a terminal thereof are obtained by polymerizing a conjugated diene monomer alone or both of a conjugated diene monomer and an aromatic vinyl monomer using an organic active metal in the presence of a polar compound.

16. (withdrawn) A process for producing the conjugated diene rubber composition as claimed in claim 9, which comprises mixing together a rubber composition comprising 100 parts by weight of the conjugated diene rubber (A) and 0 to 150 parts by weight of silica, and a rubber composition comprising 100 parts by weight of the conjugated diene rubber (B) and 0 to 150 parts by weight of silica.

17. (currently amended) A rubber vulcanizate which is obtained ~~obtainable~~ by crosslinking [[the]] a conjugated diene rubber composition ~~as claimed in claim 1~~ comprising:

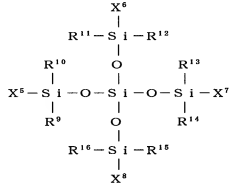
(A) 5% to 95% by weight of a conjugated diene rubber having a weight average molecular weight in the range of 1,000 to 3,000,000 wherein at least three conjugated diene polymer chains in said rubber are bonded together through at least one polyorganosiloxane selected from those which are represented by the general formulae (1), (2) and (3), shown below:

General formula (1):



wherein R^1 through R^8 represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^1 through R^8 being the same or different; X^1 and X^4 are such that (i) a part of the sum of X^1 and X^4 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of the X^1 and X^4 is a group derived from said functional group or a single bond, or (ii) X^1 and X^4 are an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, X^1 and X^4 being the same or different; X^2 is such that a part of X^2 is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of X^2 is a group derived from said functional group or a single bond; X^3 is a group comprising 2 to 20 alkylene glycol repeating units, provided that a part of X^3 may be a group derived from the group comprising 2 to 20 alkylene glycol repeating units; and m is an integer of 3 to 200, n is an integer of 0 to 200 and k is an integer of 0 to 200;

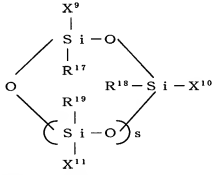
General formula (2):



wherein R^9 through R^{16} represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^9 through R^{16} being the same or different; and X^5 through X^8 are such that a part of the sum of X^5 through X^8 is a functional group capable of reacting with an

active metal at a terminal of the active conjugated diene polymer chains and the remainder of the sum of X^5 through X^8 is a group derived from said functional group or a single bond;

General formula (3):



wherein R^{17}, R^{18} and R^{19} represent an alkyl group having 1 to 6 carbon atoms or an aryl group having 6 to 12 carbon atoms, R^{17}, R^{18} and R^{19} being the same or different; X^9, X^{10} and X^{11} are such that a part of the sum of X^9, X^{10} and X^{11} is a functional group capable of reacting with an active metal at a terminal of the active conjugated diene polymer chains and the remainder of the sum of X^1 and X^4 is a group derived from said functional group or a single bond; and s is an integer of 1 to 18, and

(B) 95% to 5% by weight of a reaction product of a conjugated diene rubber having a weight average molecular weight in the range of 1,000 to 3,000,000 with a compound selected from the group consisting of: N-substituted cyclic amides, N-substituted cyclic ureas, N-substituted amino ketones, aromatic isocyanates, N,N,N',N'-tetramethylthiourea, N,N-disubstituted aminoalkylmethacrylamides, N-substituted aminoaldehydes, N-substituted carbodiimides, Schiff bases, propylene oxide, tetraglycidyl-1,3-bisaminomethylcyclohexane, epoxidized polybutadiene, vinyl compounds having a pyridyl group, bis(triethoxysilylpropyl)-tetrasulfide, bis(tributoxysilylpropyl)tetrasulfide, γ-glydoxypropyltrimethoxysilane, methyltrimethoxysilane, tetramethoxysilane, tin tetrachloride, silicon tetrachloride, triphenylmonochlorotin, triphenoxychlorosilane, methyltriphenoxysilane, and diphenoxydichlorosilane.

18. (original) The rubber vulcanizate according to claim 17, which is a tire.